Serial Number 10/674,234
Docket Number YOR920030485US1
Amendment1

Amendments to the Drawings

The attached sheet of drawings includes changes to FIG. 3A. This sheet, which includes FIG. 3A, replaces the original sheet including FIG. 3A. The reference numeral 308 has been replaced by reference numeral 306 with respect to the box labeled EditorManager.

8

REMARKS

Claims 1-13 remain in the application. Claims 1, 6, 10, 12, and 13 have been amended. Claim 2 has been cancelled. The drawing sheets have been amended. The specification has been amended to correct some minor issues. Applicant respectfully requests reconsideration.

DRAWINGS

The Office Action objected to the drawings because the reference character "308" in FIG. 3A is used to designate both EditorManager and ViewReference. Therefore, FIG. 3A has been amended to use the numeral 306 to refer to the EditorManager block. Number 308 refers to the ViewReference.

SPECIFICATION

The Office Action objected to the abstract of the disclosure because the word location should be "locating" and the reference character 308 is not mentioned in the specification. Applicants have made these changes.

CLAIM REJECTIONS UNDER 35 USC §112

The Office Action rejected claims 1-13 under 35 USC 112 as being indefinite. Claims 1, 12, and 13 have been amended to provide proper antecedent for "the running

9

application."

CLAIM REJECTIONS UNDER 35 USC §101

Claims 1 and 3-13 were rejected as allegedly directed to non-statutory subject matter. Specifically the Examiner argues that the subject matter of the claims is an abstract idea and does not produce a useful, concrete, and tangible result. Applicants respectfully traverse these rejections. First, there is no requirement that the claims themselves recite a useful, concrete, and tangible result. See AT& T Corp. v. Excel Communications Inc., 50 USPQ2d 1447 (Fed. Cir. 1999); State Street Bank &Trust Co. v. Signature Fin. Group, 149 F.3d 1368, 1374-75, 47 USPQ2d 1596, 1602 (Fed. Cir. 1998), cert. denied, 119 S. Ct. 851 (1999). Second, the claimed invention clearly has a useful, concrete, and tangible result. Applicant's specification states: "This approach has two beneficial consequences. First, it enables automated discovery and simple presentations of what is really causing problematic data structure evolution (such as a memory leak or leaks). Second, it enables lightweight and automated tracking of how whole data structures evolve. To realize these benefits, these new methods are utilized: 1) ranking data structures automatically by their likelihood of containing leaks; 2) identifying suspicious regions within a data structure; 3) characterizing their expected evolution, and 4) a lightweight system to track those regions' actual evolution as the program runs." Specification at page 9, paragraph 0026. Furthermore, in order to advance prosecution the Applicants have amended the claims to include the imitations of claim 2 which was found to claim patentable subject matter.

CLAIM REJECTIONS UNDER 35 USC §102

The Office Action rejected claims 1-13 under 35 USC 102 as anticipated by U.S. Patent No. 6,061,679 issued to Bournas (hereafter, "Bournas"). The test for anticipation is— whether the claims read upon a product or process described in the prior art. SSIH Equipment

10

S.A. v. USITC, 718 F.2d 365, 218 USPQ 678 (Fed. Cir. 1983). Anticipation must be found in a

single reference. Studiengesellschaft Kohle, m.b.H. v. Dart Indus., Inc., 726 F.2d 724, 220 USPQ

841 (Fed. Cir, 1984). Anticipation requires the presence in a single prior art disclosure of all

elements of a claimed invention arranged as in the claim. Soundscriber Corp. v. U.S., 360 F.2d

954, 960, 148 USPQ 298, 301 [175 Ct. Cl. 644] (1966).

Claim 1 is not anticipated by Bournas because Bournas does not disclose the claimed

step of "periodically traversing selected subgraphs of the region in the application while the

application is running." Bournas relates to a method for creating, modifying and searching a

data structure and not to a method of determining how a region of a data structure in an

application evolves. Certainly, the cited parts of Bournas [col. 4, lines 45-47, 61-65, col. 7, line

66 – col. 8, lines 39-66] do not discuss subgraphs. Instead Bournas discloses sub-data

structures. According to Bournas sub-data structures are comprised by a data structure.

According to Applicant's specification data structures are subgraphs. See specification, page 9,

paragraph 26. Therefore, a subgraph is not a sub-data structure.

Bournas does not disclose "locating structural changes in the subgraphs" as claimed.

The Office Action cites the following for this limitation:

"Subsequent to calculating the key mask range, the data structure is searched to determine if
there is a tree root node for this key mask range, STEP 408. Specifically, the key mask range
stored within each root node is checked to see if one matches the key mask range just calculated.
If the there is no root node for this particular key mask range, INQUIRY 410, then a new root
node is created, STEP 412. Thereafter, the new root node is inserted into a linked list of trees
(which make up the data structure) according to its range, STEP 414. In particular, the smaller
the key mask range, the more specific the subnet is, and the more specific the key mask is, the
closer to the beginning of the data structure the subnet is placed. Thus, the data structure starts
with the most specific key mask range, range one, and proceeds, for instance, in ascending order

11

Serial Number 10/674,234
Docket Number YOR920030485US1
Amendment1

of key mask ranges.

After inserting the new root node into the data structure according to its range, the new key mask is stored in the root node, STEP 416.

Returning to INQUIRY 410, if there is a root for this key mask range, then a further determination is made as to whether this particular key mask is among the stored key masks of the found root node, INQUIRY 418. Should the key mask not be included in the stored key masks, then it is added, STEP 420. After the key mask is added to the root node (STEPS 416, 420) or if the key mask is already among the stored key masks (INQUIRY 418), then the key (e.g., the address) is added to the found tree, STEP 422."

There is no discussion of structural changes in the cited text above.

Bournas does not disclose "using these structural changes to describe, characterize, and identify changes to the region as a whole." The Office Action contends that adding keys of addressable elements to the data structure corresponds to this limitation. However, Bournas does not do this for a region of a data structure.

Finally, Bournas does not disclose reporting the changes to the region to an analysis agent. Bournas at col. 9, lines 12-13 says that the requester of the addition receives a report of a duplication error. That is not the same as reporting changes to the region to an analysis agent.

Claims 3-11 are dependent upon claim1 and are not anticipated for the above reasons. Claims 12 and 13 are, respectively, program product manufacture and machine counterparts of claim 1 and are also not anticipated for the above reasons.

12

Serial Number 10/674,234
Docket Number YOR920030485US1
Amendment1

For the foregoing reasons, Applicant respectfully requests allowance of the pending

claims.

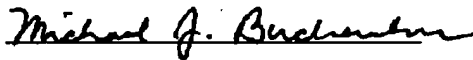Respectfully submitted,

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Date: October 27, 2006

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Certificate of Facsimile Transmission

I hereby certify that this Amendment and Response to Office Action, and any documents referred to as attached therein are being facsimile transmitted on this date, **October 27, 2006**, to fax number 571 273-8300.

Michael J. Buchenhorner

Date: October 27, 2006

13

YOR920030485

4/10

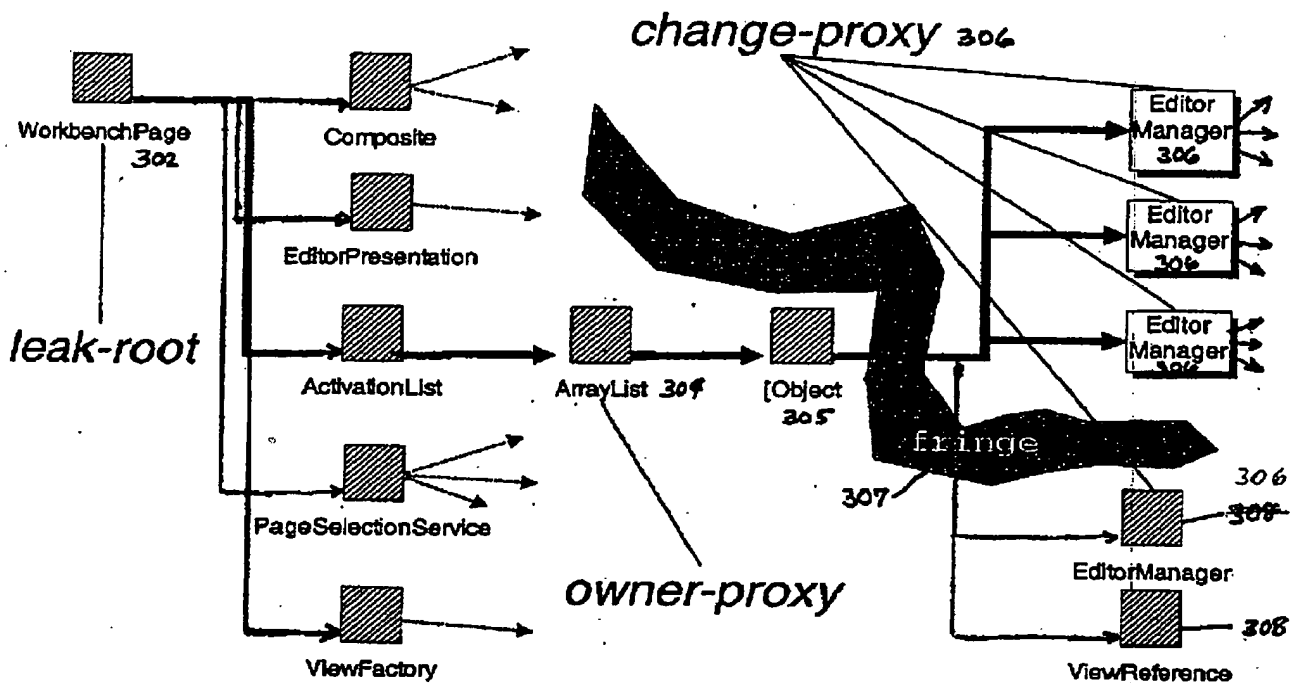Nick Mitchell

ANNOTATED SHEET SHOWING CHANGES

FIG. 3A